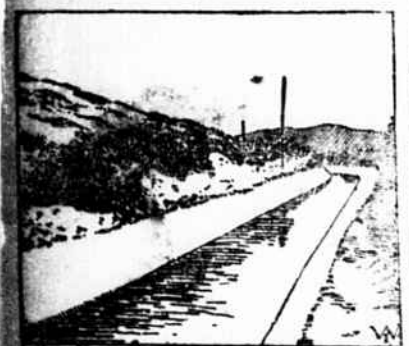


Farm and Garden

DITCH LININGS.

Glimpse at Some of Their Phases in Southern California.

A dependable water supply that can be drawn upon whenever needed is one of the ideal conditions of agriculture and almost a necessity to the back farmers. This consideration explains the undoubted interest in irrigation schemes and their progress to some extent, at least, in humid regions. Due to the irrigator's problems everywhere is the waste water which sinks into the soil from ditches and reservoirs. The loss sometimes amounts to more than half the total flow. The water which escapes is often wasted.



JURUPA CANAL.
[Lined with cement mortar.]

than wasted. It collects in the lower lands, fills the soil, drowns the roots of trees and plants, brings alkali to the surface in some regions and is very generally a prolific breeding place for mosquitoes.

On large storage works linings of cement, concrete or asphaltum may be employed without the expense being prohibitive. But on lateral ditches and small storage basins simpler and cheaper methods of making the surface impervious to water, such as can be carried out by farmers or unskilled laborers, must be found. Muddy water soon silts up muddy ditches, but where water is clear, as from wells or reservoirs, seepage losses are likely to be permanent, and some sort of lining to stop this becomes an important matter.

Southern California affords one of the great fields for studying irrigation. B. A. Etcheverry of the State university, tracing the progress there, says that canals were first paved with river boulders or cobblestones. This paving was then improved upon by paving and cementing. Plastering with cement mortar from one-half to one inch thick and the use of concrete for linings from three to six inches thick were introduced afterward. The use of steel or cement pipes has become much in favor in southern California. Where the volume of water to distribute is not large they have to a great extent replaced the smaller open ditch.

The advantage of lining a canal is not alone the decrease in seepage. Other factors should be considered. First, the prevention of growth of vegetation is an important item and is quite an expense when in most cases the ditch or lateral must be cleaned out several times during an irrigation season; second, the resistance to scouring, on which depends the velocity which the water can be given, and, third, the prevention of squirrels and gophers from burrowing into the banks and vitiation of ditches.

The cement mortar lining is reported by Professor Etcheverry to be probably used more extensively in southern California than all the other methods combined. It has proved very efficient, and its cost is small. The Jurupa canal, in the vicinity of Riverside, as shown in the cut, is lined in this manner, the lining, however, being only one-quarter to one-half inch thick.



UNLINED CANAL.
[Showing vegetation.]

This plaster lining is subject to rupture from burrowing animals and from storm water washing out some of the back filling. It is probable that this kind of lining would not resist the climate of a country subject to very cold weather.

Heavy road oil has been experimented with and found very effective in preventing growth of aquatic plants. Fudding with clay is said to be a good preventive of seepage, but it does not hinder vegetation.

Soil Sterilization.
The results of tests at the Vermont experiment station show that soil sterilization is an effective means of preventing or controlling some of the worst enemies of greenhouse plants. Stuart considers it "one of the most important of the more recent methods of greenhouse technique" because "on account of the injury so frequently caused by fungi to tomatoes and cucumbers grown under glass the sterilization of greenhouse soil has become absolutely necessary when the soil is thus

THE TOP ROUND OF THE LADDER.

(Original.)

Camilla Deming was a country girl who went to the city to join in the literary scramble. Ambitious and possessing some means, she intended to eschew the drudgery of editorial work and strike at once into authorship. But one man in her native village was sufficiently intellectual to secure her friendship, Curtis Foster, a young physician who had studied his profession in town and returned to practice it in the country. He was plodding and practical. He strongly advised her to choose a role offering greater chances of success, that of wife and mother, with himself for the husband, and when she refused begged her if she were unsuccessful to consider the offer still open.

She had met with some success by writing stories for the country papers and began in her new field with others more finished. It is true, but the same simple work that had so pleased her neighbors. Occasionally she would dispose of one of them to a magazine, but at the end of a year after figuring up her net proceeds she had gained but a twentieth of her expenditures.

She had brought with her from the country a bit of editorial work, which had remained in the bottom of her trunk. Feeling that she should make an effort to do something to her income for the next year even if it were not by her chosen creative work, she took out this manuscript, smoothed the crumpled pages and looked it over. It consisted of a series of selections from the most affecting scenes in the works of Washington Irving, to each of which she had written a brief introduction, admirably imitating the author's style.

It was accepted, and the book made a hit. The author's income for the year from this source was equal to her expenditures. Her publisher suggested the writing of another similar book made up of extracts from the humor of a noted author.

The publisher's suggestion was accompanied by so handsome an offer that she accepted. The second book was more popular than the first and the proceeds derived many times larger. Then commenced a scramble among publishers for the works of Camilla Deming. Success is gratifying in any form, and the young author was very much delighted with hers. She did not now consider her work simply editorial. At any rate, she saw in it an opening for her own creations.

She had long had on hand a novel which from time to time she had submitted to publishers, then revised and submitted again, always with the same result—"Unavailable." Selecting one of a dozen publishers who were now hounding her for her work, she placed it in his hands, and it was published immediately.

Boll Weevil Problems.

All students of the problem of boll weevil control have agreed that in the prevention of successful hibernation lies the most effective means of reducing the numbers of the weevil and preventing injury the next season. Two methods are advocated—first, the destruction of the stalks in the fall as early as possible, and, second, rotation of the cotton crop, planting on land not in cotton the previous year and as far from such land as is possible.—E. Dwight Sanderson.

Dodder Not Poisonous to Stock.

Dodder is not poisonous to stock. Hay carrying dense bunches of it is usually pushed aside by stock, says an authority on this subject.

It used to be imagined that the average level of Asia was much greater than that of any other continent. As a matter of fact, Africa's average level is exactly that of Asia, each being 1,600 feet. The average elevation of North America is 1,550 feet and of South America, 1,200 feet.

Headache



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A Dramatic Assassination.

By far the most dramatic royal assassination was that of the Emperor Paul of Russia on March 24, 1901, by his nobles. As usual Paul had retired to rest booted and spurred and in his regimentals. At the dead of night he was awakened by an unusual noise. The hussar who guarded his chamber door—the only faithful sentry, as it proved, in the palace—was being killed by nine nobles. They burst into the room and began to attack the emperor. Paul hid behind chairs and tables and begged for his life. He offered to make each of his assailants a prince. He offered to abdicate in vain. Then he made a wild dash for the window, fearfully gashing himself, but he was dragged back. He seized a chair and for some time kept the nine of them a bay, and only after terrific struggles was he seized and strangled with his own sash.

Very Likely.

Mr. Hogg—Here is some fool says in the paper that women have forgotten how to laugh. Mrs. Hogg—I guess he means married women.—Cincinnati Enquirer.

Washington's Nickname.

William Makepeace Thackeray has been credited with naming Washington "the City of Magnificent Distances." This is incorrect. Thackeray may have used the phrase, but it originated with John A. Corwin of Bellefontaine, Logan county, O., who was a very famous personage in the forties and fifties. Once on a visit to the national capital he wound up a period of exhilarating experiences in the visitors' gallery of the house of representatives, and as that august body came to order Mr. Corwin felt impelled to rise in his place and make a few remarks. He began, "I have been visiting this city of magnificent distances." There was a lot more, but this sentence lived.—New York World.

Point of Resemblance.

Stella—Does her auto match her gown?

Bella—Yes, they are neither of them paid for.—New York Sun.

Tiresome Sport.

Patience—Which do you think the more tiresome, golf or skating?

Patrice—Oh, golf! A person sits down more while skating!—Yonkers Statesman.

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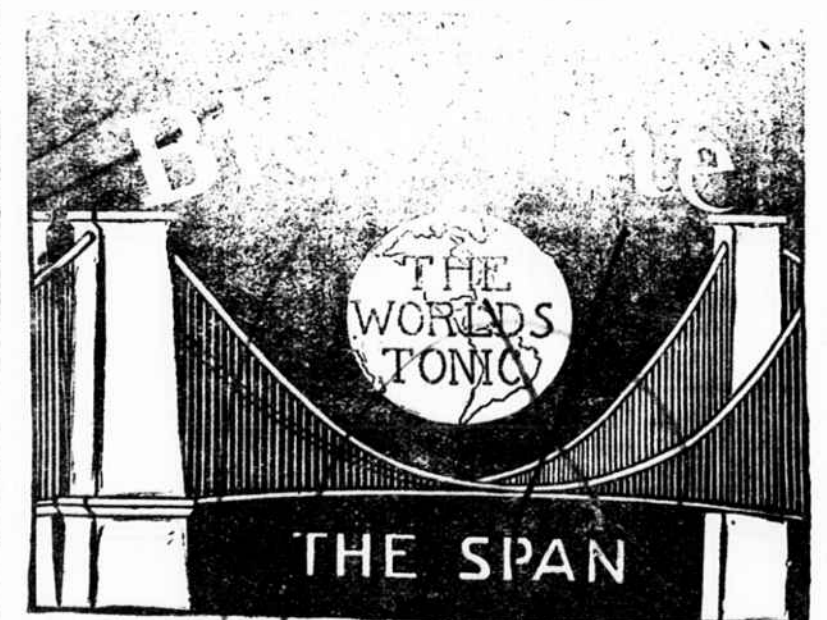
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of life is uncertain—it may be long or it may be short—this largely depends upon your health, and when you find the spans weakening and you feel all run down, nervous, irritable, melancholy; loosing flesh; have no appetite; feel faint; can't sleep; have bad dreams; dizziness or swimming of the head; your hands and feet get cold, tingle and get numb; have pains in your side or back; brick-dust deposit in urine; have acid stomach or heartburn; feel stiff and sore across the shoulders; have shooting pains throughout the body; have to strain or a desire to urinate often, or a burning sensation when passing it, you should commence to take Bloodine to-day. Go or send to your druggist now for a bottle. Don't wait! Delays are dangerous!!

Mrs. A. C. Taintor, Colchester, Conn., tells how any woman can build up their run-down system. They can be permanently cured of monthly pains and all female diseases.

Colchester, Conn., March 20, 1904.
THE BLOODINE CO., Boston, Mass.
GENTLEMEN—Through a friend in Milford I am induced to try your Bloodine. I enclose \$1.00 for sample bottle.
Yours truly,
Mrs. A. C. Taintor.

Colchester, Conn., April 11, 1904.
THE BLOODINE CO., Boston, Mass.
GENTLEMEN—I enclose \$1.00 for six (6) bottles of Bloodine—I am convinced it is what I need to build me up. I saw a change for the better after taking

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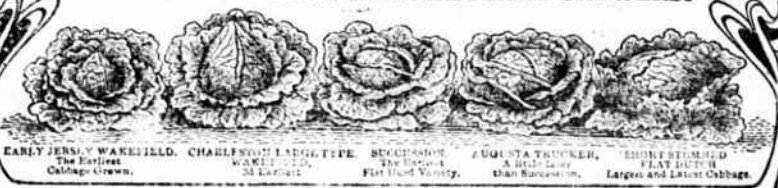
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